What is claimed is:

1.   An apparatus comprising:

a requester logic to transmit a request for a resource to a service node, the request

5   having a priority, wherein the requester logic is to set the priority of the request, the

service node to mark the resource as congested, if the priority of the request is of a

highest priority and the request is denied access to the resource.

2.   The apparatus of claim 1, wherein the requester logic is to receive a response to

10   the request from the service node, the requester logic to cause a freeze to priority updates

of other requests for the resource upon determining that access to the resource is

congested.

3.   The apparatus of claim 2, wherein the requester logic is to store the priority of the

15   request and a time that the request has awaited service by the service node.

4.   The apparatus of claim 1 further comprising a request buffer to store the request

until the resource is accessed for the request.

20   5.   The apparatus of claim 1, wherein the priority of the request is based on an

elapsed time since the request is stored in the request buffer.

6.   The apparatus of claim 1, wherein the requester logic is to freeze updates of

priorities of requests for other resources in the service node if the service node is

25   congested.

7.   A service node comprising:

a memory to store a number of lines of data; and

a server logic to receive requests for a line of data of the number of lines of data, the server logic to determine if access to the line of data is congested.

5   8.   The service node of claim 7, wherein the access to the line of data is congested if one of the requests having a highest priority is denied access to the line of data.

9.   The service node of claim 7 further comprising a starvation control list, wherein the server logic is to store an entry associated with the line of data in the starvation

10   control list if access to the line of data is congested.

10.   The service node of claim 9, wherein the server logic is to mark the service node as congested if a number of valid entries in the starvation control list exceeds a threshold.

15   11.   The service node of claim 7, wherein the access to the line of data is congested if a number of requests of a highest priority and of a second highest priority, which are denied access to the line of data, exceed a threshold.

12.   An apparatus comprising:

20   a requester node to transmit a request for data in a memory; and

a service node that includes the memory, the service node to receive the request for the data, wherein the service node is to set a congestion flag in response to the request sent back to the requester node upon determining that access to the data is congested, wherein the requester node is to freeze priority updates for the data upon receipt of the

25   congestion flag.

13.   The apparatus of claim 12, wherein the service node is to determine that access to the data is congested upon determining that the request is of a highest priority and the service node cannot access the data for the request from the requester node.

5   14.   The apparatus of claim 12, wherein the service node is to determine that access to the data is congested upon determining that the service node cannot access the data for a number of requests of a highest priority and of a second highest priority that exceed a threshold.

10   15.   The apparatus of claim 12, wherein the requester logic is to freeze updates of priorities of requests for other data in the memory if the service node is congested.

16.   The apparatus of claim 12, wherein the requester node comprises a request buffer to store the request until the request is accepted, wherein a priority for the request is

15   based on an elapsed time since the request is stored in the request buffer.

17.   The apparatus of claim 12, wherein the service node includes a starvation control list, the service node to store an entry associated with the data in the starvation control list if the request for the data is of a highest priority and if access to the data is congested.

20

18.   The apparatus of claim 17, wherein the service node is congested if a number of valid entries in the starvation control list exceeds a threshold.

19.   A system comprising:

25   an interconnection network; and

a number of nodes coupled together through the interconnection network, wherein a first node of the number of nodes comprises:

a memory to store a number of lines of data; and

a hub that includes a server logic to receive, through the interconnection network, a request from a second node of the number of nodes for a line of data of the number of lines of data, wherein the server logic is to preclude other nodes of

5   the number of nodes from increasing priority of requests to the line of data, if the request is of a highest priority and, if, in response to the request, the server logic is to transmit a negative acknowledgement response.

20.   The system of claim 19, wherein the line of data is congested if the request is of

10   the highest priority and the server logic is to transmit a negative acknowledgement response, in response to the request.

21.   The system of claim 20, wherein the server logic is to store an entry associated with the line of data in the starvation control list upon determining that access to the line

15   of data is congested if the request is of a highest priority or of a second highest priority.

22.   The system of claim 19, wherein the server logic is to mark the first node as congested if a number of valid entries in the starvation control list exceeds a threshold.

20   23.   The system of claim 19, wherein access to the line of data is congested if a number of outstanding requests of a highest priority and of a second highest priority, which are denied access to the line of data, exceed a threshold.

24.   A system comprising:

25   an interconnection network; and

a number of nodes coupled together through the interconnection network, wherein a requester node of the number of nodes comprises:

a number of processors, wherein one of the number of processors is to generate a request for data in a memory; and

a processor interface, wherein the processor interface comprises:

a request buffer; and

5   a requester logic to transmit the request having a priority to a service node of the number of nodes, the service node to send a response to the requester node to cause the requester logic to freeze priorities of other requests for the data if access to the data is congested.

10   25.   The system of claim 24, wherein access to the data is congested if the priority of the request is of a highest priority and, if, in response to the request, the service node denies access to the data.

26.   The system of claim 24, wherein the requester logic is to store an entry for the
15   request into the request buffer until the resource is accessed for the request.

27.   The system of claim 24, wherein the requester logic is to store, in the request buffer, the priority of the request, an indication of how long the request has been awaiting service and an indication of whether the service node is congested into the entry.

20

28.   The system of claim 24, wherein the requester logic is to freeze updates of priorities of requests for other data in the memory if the service node is congested.

29.   The system of claim 24, wherein the priority of the request is based on an elapsed
25   time since the request was accepted into the request buffer.

30.   A method comprising:

receiving a request for data in a memory, the request having a priority;

transmitting the request to a service node that includes the memory; and

updating priorities of other requests for the data if the data is not congested.

5   31.   The method of claim 30, wherein updating priorities of other requests for the data if the data is not congested comprises freezing updates of priorities of other requests for the data upon determining that the priority of the request is of a highest priority and the request is denied.

10   32.   The method of claim 30 further comprising updating priorities of requests for other data in the memory if the service node is not congested.

33.   The method of claim 30, wherein the priority of the request is based on an elapsed time since the request was accepted for storage into a request buffer.

15

34.   A method comprising:

receiving a number of requests for a line of data in a service node;

transmitting a positive acknowledgment to a request of the number of requests upon determining that the line of data is accessible;

20   transmitting a negative acknowledgement to a request of the number of requests upon determining that the line of data is not accessible;

freezing updates of priorities of the requests if one of the requests is of a highest priority and is denied access to the line of data; and

freezing updates of priorities of the requests if a number of the requests of the

25   highest priority and of a second highest priority that are denied access to the line of data exceed a threshold.

35.   The method of claim 34, further comprising freezing updates of priorities of the requests if the server node is congested.

36.   The method of claim 34, further comprising storing an entry of a number of entries for the line of data into a starvation control list if a request of the number of requests is of a highest priority or of a second highest priority and is the line of data is not accessible.

37.   The method of claim 36, further comprising marking the service node as congested upon determining that the number of valid entries in the starvation control list exceeds a threshold.